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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/304,523	05/04/1999	SHUNPEI YAMAZAKI	07977/046002	9801

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EXAMINER
KUNEMUND, ROBERT M

ART UNIT	PAPER NUMBER
1765	24

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/304,523	Applicant(s) YAMAZAKI ET AL.	
	Examiner Robert M Kunemund	Art Unit 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-30 and 37-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25-30,43 and 44* is/are allowed.

6)☒ Claim(s) *7-24 and 37-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

The Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-24 and 37 to 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi in view of Celler et al. .

Imahashi et al. teaches (col. 5 lines 10-23 and 34) a method for manufacturing an LCD device, comprising the step of: forming a semiconductor (amorphous silicon) film over a substrate having an insulating upper surface (glass substrate); and irradiating (crystallizing by heating) the semiconductor film with an exciter laisser beam having a cross section which is elongated in one

direction (rectangular cross section), while relatively moving the substrate (holding the substrate with a vacuum chuck) during transport (col. 7 line 13, also col. l and 2.

Imahashi et al. does not teach vacuum- holding the lower surface of the substrate in contact with the flat surface of the stage during irradiation. Seller et al. teaches vacuum-holding the lower surface of the substrate in contact with the flats surface of the stage during irradiation (i.e, holding the substrate with a vacuum chuck during laser irradiation, col. 6 lines 39-40). Because it would have been convenient to do so, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of seller et al. with those of Yamachiche et al. So as to hold the substrate during laser irradiation with a vacuum chuck.

Imahashi et al. does not teach that the vacuum chuck comprises a stage having a flat surface, and at least one suction inlet, and operates in such a manner that the lower surface of the substrate is in contact with the flats surface of the stage. However, since Imahashi et al. Teach the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. as evidence tending to show inherency, it is noted that a vacuum chuck must embody these properties if it is to be used effectively.

Imahashi et al. does not teach flattening the substrate. However, since Imahashi et al. teaches the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. As evidence tending to show inherence, it is noted that any substrate held successfully by a vacuum chuck must tend to flattened by the pressure

difference. Also, the reference does not teach the roughness of the stage. However, this is an apparatus limitation in a method claim and given little or no weight in determining patentability. One of ordinary skill in the art would have obvious used a smooth stage in order to create a uniform surface for crystallization.

Imahashi et al. does not teach irradiating the crystallized semiconductor film (claims 19-24,41 and 42). Seller et al. teaches irradiating the crystallized semiconductor film Col.6 lines 28-29). Because Seller et al. teaching that this increases mobility (col.1 lines 35-39 and 54-58), it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of Seller et al. with those of Imahashi et al. so as irradiate the crystallized semiconductor film and produce a superior LCD device as an expected result.

Response to Applicant's Arguments

Applicant's arguments filed June 17, 2002 have been fully considered but they are not persuasive.

Applicant's argument concerning the roughness of the stage is noted. However, one of ordinary skill in the art is not going to employ a rough stage which will led to wafer nonuniformity when one of crystallizing the wafer and desiring a flat surface.

Any inquiry concerning this communication should be directed to Robert Kunemund at telephone number (703) 308-1091.

R. Kunemund/lw

May 25, 2001

ROBERT KUNEMUND
PRIMARY EXAMINER